



## Sequence.ST25.txt

## SEQUENCE LISTING

<110> Boutilier, Kim  
Ouellet, Therese  
Custers, Jan  
Hattori, Jiro  
Miki, Brian  
Van Lookeren Campagne, Michiel

<120> USE OF THE BNM3 TRANSCRIPTIONAL ACTIVATOR TO CONTROL PLANT EMBRYOGENESIS AND REGENERATION PROCESSES

<130> 15327.0001US01

<140> 09/980,364

<141> 2002-04-08

<150> PCT/CA00/00642

<151> 2000-06-02

<150> EP 99201745.9

<151> 1999-06-02

<160> 17

<170> PatentIn version 3.3

<210> 1

<211> 2014

<212> DNA

<213> Brassica napus

<400> 1  
gttcatctct cttcttaag accaaaacct ttttctcctc ctcttcatgc atgaacccta 60  
actaagttct tcttctttta ccttttacca agaactcggt agatcactct ctgaactcaa 120  
tgaataataa ctggtaggc ttttctctct ctccttatga acaaaatcac catcgtaagg 180  
acgtctactc ttccaccacc acaaccgtcg tagatgtcgc cgagagtgac tgtagatc 240  
cgaccgctgc ctccgatgag tcttcagcca tccaaacatc gttccttct ccctttggtg 300  
tcgtcgta tgcttcacc agagacaaca atagtcactc ccgagattgg gacatcaatg 360  
gttgtcatg caataacatc cacaacgtg agcaagatgg accaaagctt gagaatttcc 420  
ttggccgcac caccacgatt tacaacacca acgaaaacgt tggagatgga agtggaaagt 480  
gctgttatgg aggaggagac ggtgggtgt gctcactagg actttcgatg ataaagacat 540  
ggctgagaaa tcaacccgtg gataatgtt ataataaga aaatggcaat gctgaaaag 600  
gcctgtccct ctcaatgaac tcattactt cttgtataa caacaacgac agcaataaca 660  
acgttgtgc ccaagggaaacttattgtt atagcgttga agtacaccg aagaaaacta 720  
ttgagatgtt tggacagagg acgtctatat accgcggtgt tacaaggcat cggtgacag 780  
gaagatatga ggcacattta tggataata gttgtaaaag agaaggcCAA acgcgcaaag 840  
gaagacaagt ttatggaa ggttatgaca aagaagaaaa agcagctagg gcttatgatt 900

Sequence.ST25.txt

tagccgcact	caagtattgg	ggaaccacca	ctactactaa	cttccccatg	agcgaatatg	960
aaaaagaggt	agaagagatg	aagcacatga	caaggcaaga	gtatgttgcc	tcactgcgc	1020
ggaaaagtag	tggttctct	cgtggtgc	cgatttatcg	tggagtaaca	agacatcacc	1080
aacatggaag	atggcaagct	aggataggaa	gagtcgccc	taacaaagac	ctctacttgg	1140
gaactttgg	cacacaagaa	gaagctgcag	aggcatacga	cattgcggcc	atcaaattca	1200
gaggattaac	cgcagtgact	aacttcgaca	tgaacagata	caacgttaaa	gcaatcctcg	1260
aaagccctag	tcttcctatt	ggtagcgcc	caaaacgtct	caaggaggct	aaccgtccgg	1320
ttccaagtat	gatgatgatc	agtaataacg	tttcagagag	tgagaatagt	gctagcggtt	1380
ggcaaaacgc	tgcggttcag	catcatcagg	gagtagattt	gagcttattt	caccaacatc	1440
aagagaggt	aatggttat	tattacaatg	gaggaaacctt	gtcttcggag	agtgctaggg	1500
cttgttcaa	acaagaggat	gatcaacacc	atttctttag	caacacgcag	agcctcatga	1560
ctaataatcga	tcatcaaagt	tctgttccgg	atgattcggt	tactgtttgt	ggaaatgttg	1620
ttggttatgg	tggttatcaa	ggatttgcag	ccccggtaa	ctgcgatgcc	tacgctgcta	1680
gtgagtttga	ttataacgca	agaaaccatt	attacttgc	tcagcagcag	cagaccgc	1740
agtcgccagg	tggagatttt	cccgccgcaa	tgacgaataa	tgtggctct	aatatgtatt	1800
accatgggga	agggtgttgg	gaagttgctc	caacatttac	agtttggAAC	gacaattttaga	1860
aaaaatagtt	aaagatctt	agttatatgc	gttgggtgt	gctggtaac	agtgtgatac	1920
tttgattatg	ttttttctt	tcttttttc	tttttcttgg	ttaatttctt	aagacttatt	1980
tttagtttcc	attagttgga	taaattttca	gact			2014

<210> 2  
<211> 579  
<212> PRT  
<213> Brassica napus  
<400> 2

Met Asn Asn Asn Trp Leu Gly Phe Ser Leu Ser Pro Tyr Glu Gln Asn  
1 5 10 15

His His Arg Lys Asp Val Tyr Ser Ser Thr Thr Thr Thr Val Val Asp  
20 25 30

Val Ala Gly Glu Tyr Cys Tyr Asp Pro Thr Ala Ala Ser Asp Glu Ser  
35 40 45

Ser Ala Ile Gln Thr Ser Phe Pro Ser Pro Phe Gly Val Val Val Asp  
50 55 60

Ala Phe Thr Arg Asp Asn Asn Ser His Ser Arg Asp Trp Asp Ile Asn  
Page 2

## Sequence.ST25.txt

65                   70                   75                   80  
Gly Cys Ala Cys Asn Asn Ile His Asn Asp Glu Gln Asp Gly Pro Lys  
85                   90                   95  
  
Leu Glu Asn Phe Leu Gly Arg Thr Thr Ile Tyr Asn Thr Asn Glu  
100               105               110  
  
Asn Val Gly Asp Gly Ser Gly Ser Gly Cys Tyr Gly Gly Asp Gly  
115               120               125  
  
Gly Gly Gly Ser Leu Gly Leu Ser Met Ile Lys Thr Trp Leu Arg Asn  
130               135               140  
  
Gln Pro Val Asp Asn Val Asp Asn Gln Glu Asn Gly Asn Ala Ala Lys  
145               150               155               160  
  
Gly Leu Ser Leu Ser Met Asn Ser Ser Thr Ser Cys Asp Asn Asn Asn  
165               170               175  
  
Asp Ser Asn Asn Asn Val Val Ala Gln Gly Lys Thr Ile Asp Asp Ser  
180               185               190  
  
Val Glu Ala Thr Pro Lys Lys Thr Ile Glu Ser Phe Gly Gln Arg Thr  
195               200               205  
  
Ser Ile Tyr Arg Gly Val Thr Arg His Arg Trp Thr Gly Arg Tyr Glu  
210               215               220  
  
Ala His Leu Trp Asp Asn Ser Cys Lys Arg Glu Gly Gln Thr Arg Lys  
225               230               235               240  
  
Gly Arg Gln Val Tyr Leu Gly Gly Tyr Asp Lys Glu Glu Lys Ala Ala  
245               250               255  
  
Arg Ala Tyr Asp Leu Ala Ala Leu Lys Tyr Trp Gly Thr Thr Thr Thr  
260               265               270  
  
Thr Asn Phe Pro Met Ser Glu Tyr Glu Lys Glu Val Glu Glu Met Lys  
275               280               285  
  
His Met Thr Arg Gln Glu Tyr Val Ala Ser Leu Arg Arg Lys Ser Ser  
290               295               300  
  
Gly Phe Ser Arg Gly Ala Ser Ile Tyr Arg Gly Val Thr Arg His His  
305               310               315               320

Sequence.ST25.txt

Gln His Gly Arg Trp Gln Ala Arg Ile Gly Arg Val Ala Gly Asn Lys  
325 330 335

Asp Leu Tyr Leu Gly Thr Phe Gly Thr Gln Glu Glu Ala Ala Glu Ala  
340 345 350

Tyr Asp Ile Ala Ala Ile Lys Phe Arg Gly Leu Thr Ala Val Thr Asn  
355 360 365

Phe Asp Met Asn Arg Tyr Asn Val Lys Ala Ile Leu Glu Ser Pro Ser  
370 375 380

Leu Pro Ile Gly Ser Ala Ala Lys Arg Leu Lys Glu Ala Asn Arg Pro  
385 390 395 400

Val Pro Ser Met Met Ile Ser Asn Asn Val Ser Glu Ser Glu Asn  
405 410 415

Ser Ala Ser Gly Trp Gln Asn Ala Ala Val Gln His His Gln Gly Val  
420 425 430

Asp Leu Ser Leu Leu His Gln His Gln Glu Arg Tyr Asn Gly Tyr Tyr  
435 440 445

Tyr Asn Gly Gly Asn Leu Ser Ser Glu Ser Ala Arg Ala Cys Phe Lys  
450 455 460

Gln Glu Asp Asp Gln His His Phe Leu Ser Asn Thr Gln Ser Leu Met  
465 470 475 480

Thr Asn Ile Asp His Gln Ser Ser Val Ser Asp Asp Ser Val Thr Val  
485 490 495

Cys Gly Asn Val Val Gly Tyr Gly Tyr Gln Gly Phe Ala Ala Pro  
500 505 510

Val Asn Cys Asp Ala Tyr Ala Ala Ser Glu Phe Asp Tyr Asn Ala Arg  
515 520 525

Asn His Tyr Tyr Phe Ala Gln Gln Gln Thr Gln Gln Ser Pro Gly  
530 535 540

Gly Asp Phe Pro Ala Ala Met Thr Asn Asn Val Gly Ser Asn Met Tyr  
545 550 555 560

Tyr His Gly Glu Gly Gly Glu Val Ala Pro Thr Phe Thr Val Trp  
565 570 575

Sequence.ST25.txt

Asn Asp Asn

<210> 3  
<211> 2011  
<212> DNA  
<213> Brassica napus

<400> 3  
ttcttctttt accttttacc aagaactcgt tagatcattt tctgaactcg atgaataata 60  
actggtagg cttttctctc tctccttatg aacaaaatca ccacgttaag gacgtctgct 120  
cttccaccac cacaaccgcc gtagatgtcg ccggagagta ctcttacgat ccgaccgctg 180  
cctccgatga gtcttcagcc atccaaacat cgtttccccc tcccttttgtt gtcgtctcg 240  
atgctttcac cagagacaac aatagtcaact cccgagattt ggacatcaat ggttagtgc 300  
gtaataacat ccacaatgtat gagcaagatg gacaaaaact tgagaatttc cttggccgca 360  
ccaccacgat ttacaacacc aacgaaaacg ttggagatat cgatggaagt ggggtttatg 420  
gaggaggaga cgggttgttgg ggtctactg gactttcgat gataaagaca tggctgagaa 480  
atcaacccgt ggataatgtt gataatcaag aaaatggcaa tggtgcaaaa ggcctgtccc 540  
tctcaatgaa ctcatctact tcttgtata acaacaacta cagcagtaac aaccttgg 600  
cccaaggaa gactattgtat gatagcgttg aagctacacc gaagaaaaact attgagatgtt 660  
ttggacagag gacgtctata taccgcggtg ttacaaggca tcggtgacca ggaagatatg 720  
aggcacattt atgggataat agttgtaaac gagaaggcca aacgcgcaaa ggaagacaag 780  
tttatttggg aggttatgac aaagaagaaa aagcagctag ggctttagat ttagccgcac 840  
tcaagtattt gggaccacc actactacta acttccccat gagcgaatat gagaaagaga 900  
tagaagagat gaagcacatg acaaggcaag agtatgttgc ctcacttcgc aggaaaaagta 960  
gtggtttctc tcgtggtgca tcgattttatc gtggagtaac aagacatcac caacatggaa 1020  
gatggcaagc taggatagga agagtcgccc gtaacaaaga cctctacttg ggaacttttg 1080  
gcacacaaaga agaagctgca gaggcatacg acattgcggc catcaaattc agaggattaa 1140  
ccgcagtgac taacttcgac atgaacagat acaacgttaa agcaatcctc gaaagcccta 1200  
gtcttcctat tggtagcgcc gcaaaacgtc tcaaggaggc taaccgtccg gttccaagta 1260  
tgatgatgat cagtaataac gtttcagaga gtgagaataa tgctagcggt tggcaaaaacg 1320  
ctgcggttca gcatcatcag ggagtagatt tgagcttatt gcagcaacat caagagaggt 1380  
acaatggta ttattacaat ggaggaaact tgtcttcgga gagtgcttagg gcttggttca 1440  
aacaagagga tgatcaacac catttcttga gcaacacgca gagcctcatg actaatatcg 1500  
atcatcaaag ttctgtttca gatgattcgg ttactgttttgg tggaaatgtt gttggttatg 1560

Sequence.ST25.txt

gtggttatca	aggatttgca	gccccggta	actgcgtatgc	ctacgctgct	agtgagtttgc	1620
actataacgc	aagaaaccat	tattactttg	ctcagcagca	gcagacccag	cattcgccag	1680
gaggagattt	tcccgcggca	atgacgaata	atgttggctc	taatatgtat	taccatgggg	1740
aaggtggtgg	agaagttgct	ccaacattta	cagtttgaa	cgacaattag	aaataatagt	1800
taaagatctt	tagttatatg	cgttgttg	tggtgtgaa	cagtttgata	cttgattat	1860
gtttttttt	ctcttttca	tttttgttgg	tagttctta	agacttattt	tttgtttcca	1920
tttagttggat	aaattttcgg	acttaagggt	cacttctgtt	ctgacttctg	tctaatacag	1980
aaaagtttc	ataaaaaaaaaa	aaaaaaaaaa	a			2011

<210> 4  
<211> 579  
<212> PRT  
<213> Brassica napus

<400> 4

Met Asn Asn Asn Trp Leu Gly Phe Ser Leu Ser Pro Tyr Glu Gln Asn  
1                   5                   10                   15

His His Arg Lys Asp Val Cys Ser Ser Thr Thr Thr Ala Val Asp  
20                 25                                   30

Val Ala Gly Glu Tyr Cys Tyr Asp Pro Thr Ala Ala Ser Asp Glu Ser  
35                 40                                   45

Ser Ala Ile Gln Thr Ser Phe Pro Ser Pro Phe Gly Val Val Leu Asp  
50                 55                                   60

Ala Phe Thr Arg Asp Asn Asn Ser His Ser Arg Asp Trp Asp Ile Asn  
65                 70                                   75                           80

Gly Ser Ala Cys Asn Asn Ile His Asn Asp Glu Gln Asp Gly Pro Lys  
85                 90                                   95

Leu Glu Asn Phe Leu Gly Arg Thr Thr Ile Tyr Asn Thr Asn Glu  
100                 105                                   110

Asn Val Gly Asp Ile Asp Gly Ser Gly Cys Tyr Gly Gly Asp Gly  
115                 120                                   125

Gly Gly Gly Ser Leu Gly Leu Ser Met Ile Lys Thr Trp Leu Arg Asn  
130                 135                                   140

Gln Pro Val Asp Asn Val Asp Asn Gln Glu Asn Gly Asn Gly Ala Lys  
145                 150                                   155                           160

Sequence.ST25.txt

Gly Leu Ser Leu Ser Met Asn Ser Ser Thr Ser Cys Asp Asn Asn Asn  
165 170 175

Tyr Ser Ser Asn Asn Leu Val Ala Gln Gly Lys Thr Ile Asp Asp Ser  
180 185 190

Val Glu Ala Thr Pro Lys Lys Thr Ile Glu Ser Phe Gly Gln Arg Thr  
195 200 205

Ser Ile Tyr Arg Gly Val Thr Arg His Arg Trp Thr Gly Arg Tyr Glu  
210 215 220

Ala His Leu Trp Asp Asn Ser Cys Lys Arg Glu Gly Gln Thr Arg Lys  
225 230 235 240

Gly Arg Gln Val Tyr Leu Gly Gly Tyr Asp Lys Glu Glu Lys Ala Ala  
245 250 255

Arg Ala Tyr Asp Leu Ala Ala Leu Lys Tyr Trp Gly Thr Thr Thr  
260 265 270

Thr Asn Phe Pro Met Ser Glu Tyr Glu Lys Glu Ile Glu Glu Met Lys  
275 280 285

His Met Thr Arg Gln Glu Tyr Val Ala Ser Leu Arg Arg Lys Ser Ser  
290 295 300

Gly Phe Ser Arg Gly Ala Ser Ile Tyr Arg Gly Val Thr Arg His His  
305 310 315 320

Gln His Gly Arg Trp Gln Ala Arg Ile Gly Arg Val Ala Gly Asn Lys  
325 330 335

Asp Leu Tyr Leu Gly Thr Phe Gly Thr Gln Glu Glu Ala Ala Glu Ala  
340 345 350

Tyr Asp Ile Ala Ala Ile Lys Phe Arg Gly Leu Thr Ala Val Thr Asn  
355 360 365

Phe Asp Met Asn Arg Tyr Asn Val Lys Ala Ile Leu Glu Ser Pro Ser  
370 375 380

Leu Pro Ile Gly Ser Ala Ala Lys Arg Leu Lys Glu Ala Asn Arg Pro  
385 390 395 400

Val Pro Ser Met Met Ile Ser Asn Asn Val Ser Glu Ser Glu Asn  
405 410 415

Sequence.ST25.txt

Asn Ala Ser Gly Trp Gln Asn Ala Ala Val Gln His His Gln Gly Val  
420 425 430

Asp Leu Ser Leu Leu Gln Gln His Gln Glu Arg Tyr Asn Gly Tyr Tyr  
435 440 445

Tyr Asn Gly Gly Asn Leu Ser Ser Glu Ser Ala Arg Ala Cys Phe Lys  
450 455 460

Gln Glu Asp Asp Gln His His Phe Leu Ser Asn Thr Gln Ser Leu Met  
465 470 475 480

Thr Asn Ile Asp His Gln Ser Ser Val Ser Asp Asp Ser Val Thr Val  
485 490 495

Cys Gly Asn Val Val Gly Tyr Gly Gly Tyr Gln Gly Phe Ala Ala Pro  
500 505 510

Val Asn Cys Asp Ala Tyr Ala Ala Ser Glu Phe Asp Tyr Asn Ala Arg  
515 520 525

Asn His Tyr Tyr Phe Ala Gln Gln Gln Thr Gln Gln Ser Pro Gly  
530 535 540

Gly Asp Phe Pro Ala Ala Met Thr Asn Asn Val Gly Ser Asn Met Tyr  
545 550 555 560

Tyr His Gly Glu Gly Gly Glu Val Ala Pro Thr Phe Thr Val Trp  
565 570 575

Asn Asp Asn

<210> 5  
<211> 4873  
<212> DNA  
<213> Brassica napus

<400> 5  
atctctccac cgattcgta cccagtgc tt gaaaatatga tgactacgaa tcaattaaat 60  
ggagaagctc cactgcttgt gttaggtggaa gctcaagcaa caaccggaaa cctcggcgtt 120  
atcgggagtt agcatcgta tttgccaaaa tttccgccc agagatgaaa cgattcaaga 180  
gaaaccctca aataggtagt ccataaaaca gtgaattagt atgatttaag agataagaag 240  
agaagatgag ttcaagaaaa gaaatactca catctattta tactgtttac acaccgcctt 300  
tcagatctaa gcaaaggcatt gaagatgaat cgtggaggag agttaatagg atttaacaca 360

Sequence.ST25.txt

aagccattaa	ccaaaccgtt	gcaggtcggg	agacgaaccg	caaaagtac	gcctagccgt	420
cgcacgaaga	ggagcgatga	attcgttt	ctcgctgcag	tcgtattagg	gatagacgga	480
gctcattatc	gttgggccgg	aaacacttct	aatctcacag	cccatgaaca	cactaaagaa	540
cgaaaccgaa	aatgttgaa	gtttaatgaa	acgtgcggtt	tgccttatgg	acacatgtca	600
ttacgatatg	aatgattta	tctacgtgga	tcatagggt	ctctctaagg	agagagcaaa	660
cctatacttt	atataaata	atgttatca	ttctaagagg	tgttaagat	ttttgcataa	720
atattaaaaa	aaaatacaa	tttttatgta	attagtttg	gttacataaa	ataacattaa	780
ataaaaattaa	ttcaaccaat	aaaaaaatac	ggtattttat	aattggtcaa	aaataaaaat	840
aaaacattaa	atttcaccta	gaattacgag	aatgtcactt	atttgaaac	aaaatcaaaa	900
tctttaaaca	tcaattaaac	tgatacggat	ggagtatata	tcttacaga	gaacatatat	960
atatgtttt	cttgcgtcg	tccatctctt	cttagtcatg	tagttcaat	accagctgca	1020
gtaaaaccat	gaatatttga	atttgttgc	aaatattcga	agcgactact	gcacgttgg	1080
aagcaaaacg	ccaaacgcaa	tcgctcgctc	ggtcataggg	tcacacatac	acatgtgact	1140
agcattatgg	gtcttaattc	aacagcgagt	gattttggga	tttatttatta	gttctcggt	1200
tactctact	ttaacacaaa	gtcactaacc	ttatttacac	atgaagagag	gtttgaaagg	1260
gctttgact	gattaattat	aatgtattaa	accaaactag	aattaagaga	ttaggcattt	1320
aattacatta	ccaccaccac	ccaccattca	aaccgaccaa	tacatctcca	cagtttcaa	1380
gtaaaacaac	tttttttgt	tgttccttcg	gaatttaat	aaatattcgt	ttatataaat	1440
gcfgatgata	tgacgcctcg	gaagaaatga	aacattatat	cttgacttt	tcttctccct	1500
gttcatctct	cttcttaag	acccaaacct	ttttctccctc	ctcttcatgc	atgaacccta	1560
actaagttct	tcttcttta	cctttacca	agaactcggt	agatcactct	ctgaactcaa	1620
tgaataataa	ctggtaggc	ttttctctct	ctccttatga	acaaaatcac	catcgtaagg	1680
acgtctactc	ttccaccacc	acaaccgtcg	tagatgtcgc	cggagagtac	tgttacgatc	1740
cgaccgctgc	ctccgatgag	tcttcagcca	tccaaacatc	gtttccttct	cccttggtg	1800
tcgtcgatcg	tgcttcacc	agagacaaca	atagtcactc	ccgaggttat	tgttttagaa	1860
ctactgttt	tttttgatt	tgtttatgg	tttagttcc	tcttcttcca	atgcgtagaa	1920
caaagaccaa	tacacacgca	cgcatactag	cccttatttt	tccttggct	tatttatcga	1980
tttcatttat	tttgagaata	tcaatgtgt	gggtttgatg	tttggggca	tatagtaata	2040
ctaaaacata	tgccagttat	acatagattt	tttttaaaga	tatacatgga	tatgaaatga	2100
aatttgacat	ttcctccctt	attcaatatc	ataatatgat	cacatacatg	tgtacccccc	2160
gatttgtata	tttgcgtttt	acagttgaag	gagagaataa	ccaaatacc	atttgtat	2220

Sequence.ST25.txt

tatagatcg	tgatgaaaag	taaatttaac	aaattatgat	aatataggcc	attaatctt	2280
gatttttttt	ctttatagat	tggacatca	atggttgtgc	atgcaataac	atccacaacg	2340
atgagcaaga	tggaccaaag	cttgagaatt	tccttggccg	caccaccacg	atttacaaca	2400
ccaacgaaaa	cgttggagat	ggaagtggaa	gtggctgtta	tggaggagga	gacggtggtg	2460
gtggctcact	aggactttcg	atgataaaga	catggctgag	aaatcaaccc	gtggataatg	2520
ttgataatca	agaaaatggc	aatgctgcaa	aaggcctgtc	cctctcaatg	aactcatcta	2580
cttcttgta	taacaacaac	gacagcaata	acaacgttgt	tgcccaaggg	aagactattg	2640
atgatagcgt	tgaagctaca	ccgaagaaaa	ctattgagag	tttggacag	aggacgtcta	2700
tataccgcgg	tgttacaagg	tgcccttcat	ttatthaatt	aaaatgtgt	aatgtcgct	2760
tgaattgtta	tcttcttgg	aaagtctgg	acattgatct	aatggctctg	ttgcgagagt	2820
gctaccgaat	ggtccttgat	atatagtatc	aaagagagat	attgttatta	tggccttata	2880
tagaataata	catatatata	tatataatac	tggtagctgt	tgtgacatg	tatgttcgt	2940
ttaaatgata	aggcatcggt	ggacaggaag	atatgaggca	catttatggg	ataatagtt	3000
taaaagagaa	ggccaaacgc	gcaaaggaag	acaaggata	tatataattca	ttgataattt	3060
gatcatattt	tcatacacga	tttactttca	aactaatata	ggttttcga	tcattgttca	3120
tgtttttatc	aaaatttgca	cctgggggtt	gtcttctcag	tttatttgg	taagtaattt	3180
attataaatt	ggacgaagct	gtgatggta	aatctaaatt	atataatcaa	atttgtttat	3240
tttttgtgt	tacattcatt	atataatcaa	aatagcgata	cgatctacat	tcaattgtt	3300
tctatatcat	gcaggagggtt	atgacaaaga	agaaaaagca	gctaggcctt	atgatttagc	3360
cgcactcaag	tattggggaa	ccaccactac	tactaacttc	cccgtaagtc	aatcaatgtt	3420
gtacaagatt	tcataactta	gaaccaattt	tattttttt	ttataagatg	ctattatctt	3480
attattaatt	gccatgtta	tatcgttaca	tttattacaa	taaaaagtac	ttttggttt	3540
atataatatg	tagatgagcg	aatatgaaaa	agaggtagaa	gagatgaagc	acatgacaag	3600
gcaagagtat	gttgcctcac	tgcgcaggta	tataatggaa	cttctgatat	tattgcata	3660
ggcatctatt	attatacatg	tatattagta	ttttatatat	agaacccatc	acgctcacgt	3720
ttatatttaa	aaatatgtcc	gtattcacgt	cagattatca	gcatacacct	atataataa	3780
gacattaaaa	tatgcaggaa	aagtatgtgt	ttctctcg	gtgcacatcgat	ttatcggt	3840
gtaacaaggt	attcatacag	agagaacgaa	tcctattttg	ttacgtacat	atataatataa	3900
aaatataatt	ataagatatc	acatttata	ttatgaatat	ttcttcta	gggtccaaaa	3960
gacatcacca	acatggaaga	tggcaagcta	ggataggaag	agtcgcccgt	aacaaagacc	4020
tctacttggg	aacttttgtt	acgtttagtc	ttctcttact	aaacttcaca	atcaaatcta	4080
taacaaaaga	tatcaactaa	aaactacaac	atataatctaa	gtaagctgt	catatattt	4140

Sequence.ST25.txt

atatgaaggc acacaagaag aagctgcaga ggcatacgac attgcggcca tcaaattcag	4200
aggattaacc gcagtgacta acttcgacat gaacagatac aacgttaaag caatcctcga	4260
aagccctagt cttcctattg gtagcgccgc aaaacgtctc aaggaggcta accgtccggt	4320
tccaagtatg atgatgatca gtaataacgt ttcatagagt gagaatagtg ctacgttgt	4380
gcaaaaacgct gcgggtcagc atcatcaggg agtagatttgc accaacatca	4440
agagaggtac aatggttatt attacaatgg aggaaacttg tcttcggaga gtgcttagggc	4500
ttgtttcaaa caagaggatg atcaacacca tttcttgagc aacacgcaga gcctcatgac	4560
taatatcgat catcaaagt ctgtttcgga tgattcggtt actgtttgtg gaaatgttgt	4620
tggttatggt gtttatcaag gattgcagc cccggtaac tgcgtgcct acgctgttag	4680
ttagtttgat tataacgcaa gaaaccatta ttactttgct cagcagcagc agacccagca	4740
gtcgcgcagggt ggagatttc ccgcggcaat gacgataat gttggctcta atatgtatta	4800
ccatggggaa ggtgggtggag aagttgctcc aacatttaca gtttggaaacg acaattagaa	4860
aaaatagttt aag	4873

<210> 6  
 <211> 5151  
 <212> DNA  
 <213> *Arabidopsis thaliana*

<400> 6	
tctcaaactc atccatctga ttttaataac agtttttct tcttttctt ttgttgttt	60
ttaccacttt tctttctttt tctcattttc tacttacttc cagatttttc atttccat	120
ttttggtcac acgctttgt cagttgtaga tatcttcatc tacaggtgtt tcctttatt	180
ttcagatgga atctcaatct acaggtgttt ctcacttcaa taaattacgg cccccaaaaa	240
atttatgttt tttatattaca agaaacatag cataatatga tacatatgtt tttgaagtac	300
tgtttttac acaaaacttt gattataaaa cctcagccgt tctttcgat ttgttatttt	360
aacgcatttca atgaagtcat tcgtgaatga tatataaata gtttggatattttt ttgttattata	420
tcgtcccgcc ccggatcaaa acctaaagta agtgaataaa attttctttt gtagagataa	480
gaaaatttgc accgcgtatc gaaaatgtaa aaccttattttt aatttctaga tctactaatt	540
gggtttgagg tattgaaata attgggtacc aaagggttgg ggtactatata ataaaaagca	600
gataagaaca aattgttagg aaaaaataat atgatttgtt aggtaccgag gcaattctat	660
aacgtgtgtt ggtgggtgtt tagatattgc aggataata atgaaagaag taaaattata	720
ttacaattaa attagaagac gagaatccat tgaatcatat cttaccagtc caaactttt	780
ttaagtatata aatctttga aagagtataa acccatgcac atgcccactt tcgtctcatt	840
gatccatgtt tataccctat agttcctcc ctaattactc taattccctt aaatcatttt	900

Sequence.ST25.txt

ttaatttgat acaatttagtc ggataagctc aaactacttt actattggtg ctttagcatgt	960
acagtacata tcttagcatcc gaaccctact agccatccac atcttatgta cataattatg	1020
actgtttaa gtacttttt actttcgttt acaatgtttg tttgaaaatt tgaggcggtt	1080
tttactggtt gaactgttagc cactaagaca ctaagacttc aaaattcaaa tagaaaaatc	1140
tatactttta caatatctt gcatgtcaaa ttatTTTAA cgtggttata cattttgcct	1200
aagatttaga gtacattcat aataacaaca ataaaatatt tctatatata gtaggtttag	1260
tgaagttact atatgagata gttcatcgca ttgatcacgt ctgatgcgaa tcacatatcc	1320
tatatctagt tgaacatatg tttcgtggaa gacaggaacc atctcttaga cccgcacttc	1380
aaaatatcac aaaacacgaa accatgaatc ttttgagttt gttaaaaaat actaaaagtg	1440
acgagttcgc gtttggaaaa aatgccaaac taaatcgctg gctcgtgtca tacgttcaca	1500
catacacatg tctctaagag acacagcatc attggcttta aatcgacaac gagtgagttt	1560
ttggactttt acctatttgtt cctcgacatg tttacccatt tttgtcattt acatTTAACa	1620
ttttatacgc atgaagagag agagacagaa agcagagatt tgaaatggtt tttgactgat	1680
taattaaagt gtcataaaaa caaattggga ttacgagatt atccagttga aacgacatta	1740
ctaccctac ccttcaaacc gaccaataca tctccacatt tttcaagtaa atatTTTTC	1800
tttctgaatt taattgcaaa attctctaaa tgcgcataat atgtcgccctc ggaagaaatg	1860
aacattatat ttttgacttt tcttcttctt cttcccttc tctcttcatt taacaccaaa	1920
accttttct ttctcctctt catgcatgaa ccctaactaa gtttttttc ctattctct	1980
tctctcatct atcacaagga gtagttagaa tattatatga actcgatgaa taactggta	2040
ggcttctctc tcttcctca tgatcaaaat catcaccgta cgatgttga ctccctccacc	2100
accagaaccg ccgtagatgt tgccggaggg tactgtttt gatcgccgc tccctccgat	2160
gaatcttctg ccgtcaaaac atctttctt tctccttcgt gtgtcaccct cgaagcttcc	2220
accagagaca ataatagtca ctcggaggt ttgtgtttt aaaaatTTTA ttttATCTTT	2280
gtttttgtta tttttcccc ttcttccat gcatagaaca aagaccaaga ctcacgcacg	2340
tagccctatt tttgttttc attgtttatc gatttcatct cttttgagaa tttccatgag	2400
tggggtttag tgTTTGTCA catgatcaca tctcatgaat ttaaacttag taaaacatga	2460
aactagacat ttatTTGTA ccctttatc cttataaaat gaaaattcca tttcgatata	2520
tatagatcgg tgatgaatca aacccaacgt tggggatcgc tttgttttt gtctatagat	2580
tgggacatca atggTGGTGC atgcaataca ttaaccaata acgaacaaaa tggaccaaaag	2640
cttgagaatt tcctcggccg caccaccacg atttacaata ccaacgagac cgTTGTTAGAT	2700
ggaaatggcg attgtggagg aggagacggt ggtggTGGCG gctcactagg ctttcgatg	2760

Sequence.ST25.txt

ataaaaacat ggctgagtaa tcattcggtt gctaatgcta atcatcaaga caatggtaac	2820
ggtcacgag gcttgcgcct .ctctatgaat tcatctacta gtgatagcaa caactacaac	2880
aacaatgatg atgtcgtcca agagaagact attgttgatg tcgtagaaac tacaccgaag	2940
aaaactattg agagtttgg acaaaggacg tctatatacc gcgggtttac aaggtaatt	3000
tcattgatct atgtatattt ttattgtgct taaattgtga tttcttggt attgttggg	3060
acattctaat ggtcgggtt agagagagtg caacggaatg tctctcaatg tatattaaag	3120
agaaacatta attagtgtac atgggttat atatacaata atacgtcata tatatggtat	3180
gctcttgcattc atagtatata atgttgaat ttaatgtcag gcatcggtgg acaggttagat	3240
acgaggcaca tttatggac aatagttgca aaagagaagg ccagactcgc aaaggaagac	3300
aaggtaatat atatataaaag ctaattttt aatttcatt taccatttat tttcaaacta	3360
atttaggttt tcttttcatg tgtttcatca aaatttgcac ctgatggctc tctttcagt	3420
ttatctgggt aagttcttga ttttaagcta taaattaata atagatgact attaaatcta	3480
ttctaaagcaa aatataattg ttgtgttac tgatcctaca ggaggttatg acaaagaaga	3540
aaaagcagct agggcttacg atttagccgc actaaagtat tggggaccca ccactactac	3600
taactccccc gtatgttaat taatcaataa tatatacata aattcctaac ttctaaacca	3660
tttttagtctg aataatgccatc atctctaaa ctagtattat cttactatta actgtcatgt	3720
ttatattgtt acaataaaaaa ttagtaatgt tgggtggata taatattcag ttgagtgaat	3780
atgagaaaaga ggtagaagag atgaagcaca tgacgaggca agagtatgtt gcctctgc	3840
gcaggtacag aatgaaactc ttgaattttat tgcattttag aaacccatca cgtatatatt	3900
tattaaaata tatcgtaaaca ttgaataaat cattattgg aaagatataa gaaacatgta	3960
aatatgcagg aaaagttagt gtttctctcg tggtgcatcg atttatcgag gagtaacaag	4020
gtacgtataa tccatctaga tatggaacga atactagtgt ttcattattt tttttgtatgt	4080
atacataata attgtcatac aatactatta atctaattctta attaatattt cctttaaaat	4140
ggttccaaaa ggcatcacca acatggaagg tggcaagcta ggatcggaaag agtcgcccgt	4200
aacaaagacc tctacttggg aactttcggt acattttcca ataaaatcta tatactataa	4260
gatattaaat atacacaaat atatctaagt gaatcataca aattatgttag gcacacagga	4320
agaggctgct gaggctttagt acattgcagc cattaaattc agaggattaa gcgcagtgc	4380
taacttcgac atgaacagat acaatgttaa agcaatcctc gagagcccga gtctacctat	4440
tggtagttct gcgaaacgtc tcaaggacgt taacaatccg gttccagcta tgatgattag	4500
taataacgtt tcagagagtg caaataatgt tagcggttgg caaaacactg cgtttcagca	4560
tcatcaggga atggatttga gcttattgca gcaacagcag gagaggtacg ttggttatta	4620
caatggagga aacttgtcta ccgagagtac tagggttgt ttcaaacaag aggaggaaca	4680

Sequence.ST25.txt

acaacacttc ttgagaaaact cgccgagtca catgactaat gttgatcatc atagctcgac	4740
ctctgatgtat tctgttaccg tttgtggaaa ttttgttagt tatggtggtt atcaaggatt	4800
cgcacatccct gttggaacat cggtaatta cgatcccttt actgctgctg agattgctta	4860
caacgcaga aatcattatt actatgctca gcatcagcaa caacagcaga ttcagcagtc	4920
gccgggagga gatttccgg tggcgatttc gaataaccat agctctaaca tgtactttca	4980
cggggaaagggt ggtggagaag gggctccaac gtttcagtt tggAACGACA cttAGAAAAA	5040
taagtaaaag atcttttagt ttttgcttt gtatgttgcg aacagttga ttctgtttt	5100
cttttcctt ttttggta atttcttat aacttttcc atagttcga t	5151

<210> 7

<211> 581

<212> PRT

<213> Arabidopsis thaliana

<400> 7

Met Asn Asn Trp Leu Gly Phe Ser Leu Ser Pro His Asp Gln Asn His  
1 5 10 15

His Arg Thr Asp Val Asp Ser Ser Thr Thr Arg Thr Ala Val Asp Val  
20 25 30

Ala Gly Gly Tyr Cys Phe Asp Leu Ala Ala Pro Ser Asp Glu Ser Ser  
35 40 45

Ala Val Gln Thr Ser Phe Leu Ser Pro Phe Gly Val Thr Leu Glu Ala  
50 55 60

Phe Thr Arg Asp Asn Asn Ser His Ser Arg Asp Trp Asp Ile Asn Gly  
65 70 75 80

Gly Ala Cys Asn Thr Leu Thr Asn Asn Glu Gln Asn Gly Pro Lys Leu  
85 90 95

Glu Asn Phe Leu Gly Arg Thr Thr Ile Tyr Asn Thr Asn Glu Thr  
100 105 110

Val Val Asp Gly Asn Gly Asp Cys Gly Gly Asp Gly Gly Gly Gly  
115 120 125

Gly Ser Leu Gly Leu Ser Met Ile Lys Thr Trp Leu Ser Asn His Ser  
130 135 140

Val Ala Asn Ala Asn His Gln Asp Asn Gly Asn Gly Ala Arg Gly Leu  
145 150 155 160

Sequence.ST25.txt

Ser Leu Ser Met Asn Ser Ser Thr Ser Asp Ser Asn Asn Tyr Asn Asn  
165 170 175

Asn Asp Asp Val Val Gln Glu Lys Thr Ile Val Asp Val Val Glu Thr  
180 185 190

Thr Pro Lys Lys Thr Ile Glu Ser Phe Gly Gln Arg Thr Ser Ile Tyr  
195 200 205

Arg Gly Val Thr Arg His Arg Trp Thr Gly Arg Tyr Glu Ala His Leu  
210 215 220

Trp Asp Asn Ser Cys Lys Arg Glu Gly Gln Thr Arg Lys Gly Arg Gln  
225 230 235 240

Val Tyr Leu Gly Gly Tyr Asp Lys Glu Glu Lys Ala Ala Arg Ala Tyr  
245 250 255

Asp Leu Ala Ala Leu Lys Tyr Trp Gly Pro Thr Thr Thr Asn Phe  
260 265 270

Pro Leu Ser Glu Tyr Glu Lys Glu Val Glu Glu Met Lys His Met Thr  
275 280 285

Arg Gln Glu Tyr Val Ala Ser Leu Arg Arg Lys Ser Ser Gly Phe Ser  
290 295 300

Arg Gly Ala Ser Ile Tyr Arg Gly Val Thr Arg His His Gln His Gly  
305 310 315 320

Arg Trp Gln Ala Arg Ile Gly Arg Val Ala Gly Asn Lys Asp Leu Tyr  
325 330 335

Leu Gly Thr Phe Gly Thr Gln Glu Glu Ala Ala Glu Ala Tyr Asp Ile  
340 345 350

Ala Ala Ile Lys Phe Arg Gly Leu Ser Ala Val Thr Asn Phe Asp Met  
355 360 365

Asn Arg Tyr Asn Val Lys Ala Ile Leu Glu Ser Pro Ser Leu Pro Ile  
370 375 380

Gly Ser Ser Ala Lys Arg Leu Lys Asp Val Asn Asn Pro Val Pro Ala  
385 390 395 400

Met Met Ile Ser Asn Asn Val Ser Glu Ser Ala Asn Asn Val Ser Gly  
Page 15

## Sequence.ST25.txt

405

410

415

Trp Gln Asn Thr Ala Phe Gln His His Gln Gly Met Asp Leu Ser Leu  
 420 425 430

Leu Gln Gln Gln Gln Glu Arg Tyr Val Gly Tyr Tyr Asn Gly Gly Asn  
 435 440 445

Leu Ser Thr Glu Ser Thr Arg Val Cys Phe Lys Gln Glu Glu Glu Gln  
 450 455 460

Gln His Phe Leu Arg Asn Ser Pro Ser His Met Thr Asn Val Asp His  
 465 470 475 480

His Ser Ser Thr Ser Asp Asp Ser Val Thr Val Cys Gly Asn Val Val  
 485 490 495

Ser Tyr Gly Gly Tyr Gln Gly Phe Ala Ile Pro Val Gly Thr Ser Val  
 500 505 510

Asn Tyr Asp Pro Phe Thr Ala Ala Glu Ile Ala Tyr Asn Ala Arg Asn  
 515 520 525

His Tyr Tyr Tyr Ala Gln His Gln Gln Gln Gln Ile Gln Gln Ser  
 530 535 540

Pro Gly Gly Asp Phe Pro Val Ala Ile Ser Asn Asn His Ser Ser Asn  
 545 550 555 560

Met Tyr Phe His Gly Glu Gly Gly Glu Gly Ala Pro Thr Phe Ser  
 565 570 575

Val Trp Asn Asp Thr  
 580

<210> 8  
 <211> 30  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Primer

<400> 8  
 gaggcagcgg tcggatcgta acagttactct

30

<210> 9  
 <211> 30  
 <212> DNA  
 <213> Artificial

Sequence.ST25.txt

<220>  
<223> Primer  
  
<400> 9  
cataaggaga gagagaaaag cctaaccagt 30  
  
<210> 10  
<211> 19  
<212> DNA  
<213> Artificial  
  
<220>  
<223> Primer  
  
<400> 10  
accaagaact cgtagatc 19  
  
<210> 11  
<211> 20  
<212> DNA  
<213> Artificial  
  
<220>  
<223> Primer  
  
<400> 11  
aacgcataataaagatc 20  
  
<210> 12  
<211> 26  
<212> DNA  
<213> Artificial  
  
<220>  
<223> Primer  
  
<400> 12  
ccatggatcc agagacgaag cgaaac 26  
  
<210> 13  
<211> 26  
<212> DNA  
<213> Artificial  
  
<220>  
<223> Primer  
  
<400> 13  
actccatgga taataactgg ttaggc 26  
  
<210> 14  
<211> 26  
<212> DNA  
<213> Artificial  
  
<220>  
<223> Primer

Sequence.ST25.txt

<400> 14  
aaattctcaa gctttggtcc atcttg

26

<210> 15  
<211> 555  
<212> PRT  
<213> Arabidopsis thaliana

<400> 15

Met Lys Ser Phe Cys Asp Asn Asp Asn Asn His Ser Asn Thr Thr  
1 5 10 15

Asn Leu Leu Gly Phe Ser Leu Ser Ser Asn Met Met Lys Met Gly Gly  
20 25 30

Arg Gly Gly Arg Glu Ala Ile Tyr Ser Ser Ser Thr Ser Ser Ala Ala  
35 40 45

Thr Ser Ser Ser Val Pro Pro Gln Leu Val Val Gly Asp Asn Thr  
50 55 60

Ser Asn Phe Gly Val Cys Tyr Gly Ser Asn Pro Asn Gly Gly Ile Tyr  
65 70 75 80

Ser His Met Ser Val Met Pro Leu Arg Ser Asp Gly Ser Leu Cys Leu  
85 90 95

Met Glu Ala Leu Asn Arg Ser Ser His Ser Asn His His Gln Asp Ser  
100 105 110

Ser Pro Lys Val Glu Asp Phe Phe Gly Thr His His Asn Asn Thr Ser  
115 120 125

His Lys Glu Ala Met Asp Leu Ser Leu Asp Ser Leu Phe Tyr Asn Thr  
130 135 140

Thr His Glu Pro Asn Thr Thr Asn Phe Gln Glu Phe Phe Ser Phe  
145 150 155 160

Pro Gln Thr Arg Asn His Glu Glu Glu Thr Arg Asn Tyr Gly Asn Asp  
165 170 175

Pro Ser Leu Thr His Gly Gly Ser Phe Asn Val Gly Val Tyr Gly Glu  
180 185 190

Phe Gln Gln Ser Leu Ser Leu Ser Met Ser Pro Gly Ser Gln Ser Ser  
195 200 205

Sequence.ST25.txt

Cys Ile Thr Gly Ser His His His Gln Gln Asn Gln Asn Gln Asn His  
210 215 220

Gln Ser Gln Asn His Gln Gln Ile Ser Glu Ala Leu Val Glu Thr Ser  
225 230 235 240

Val Gly Phe Glu Thr Thr Met Ala Ala Ala Lys Lys Lys Arg Gly  
245 250 255

Gln Glu Asp Val Val Val Gly Gln Lys Gln Ile Val His Arg Lys  
260 265 270

Ser Ile Asp Thr Phe Gly Gln Arg Thr Ser Gln Tyr Arg Gly Val Thr  
275 280 285

Arg His Arg Trp Thr Gly Arg Tyr Glu Ala His Leu Trp Asp Asn Ser  
290 295 300

Phe Lys Lys Glu Gly His Ser Arg Lys Gly Arg Gln Val Tyr Leu Gly  
305 310 315 320

Gly Tyr Asp Met Glu Glu Lys Ala Ala Arg Ala Tyr Asp Leu Ala Ala  
325 330 335

Leu Lys Tyr Trp Gly Pro Ser Thr His Thr Asn Phe Ser Ala Glu Asn  
340 345 350

Tyr Gln Lys Glu Ile Glu Asp Met Lys Asn Met Thr Arg Gln Glu Tyr  
355 360 365

Val Ala His Leu Arg Arg Lys Ser Ser Gly Phe Ser Arg Gly Ala Ser  
370 375 380

Ile Tyr Arg Gly Val Thr Arg His His Gln His Gly Arg Trp Gln Ala  
385 390 395 400

Arg Ile Gly Arg Val Ala Gly Asn Lys Asp Leu Tyr Leu Gly Thr Phe  
405 410 415

Gly Thr Gln Glu Glu Ala Ala Glu Ala Tyr Asp Val Ala Ala Ile Lys  
420 425 430

Phe Arg Gly Thr Asn Ala Val Thr Asn Phe Asp Ile Thr Arg Tyr Asp  
435 440 445

Val Asp Arg Ile Met Ser Ser Asn Thr Leu Leu Ser Gly Glu Leu Ala  
450 455 460

Sequence.ST25.txt

Arg Arg Asn Asn Asn Ser Ile Val Val Arg Asn Thr Glu Asp Gln Thr  
465 470 475 480

Ala Leu Asn Ala Val Val Glu Gly Gly Ser Asn Lys Glu Val Ser Thr  
485 490 495

Pro Glu Arg Leu Leu Ser Phe Pro Ala Ile Phe Ala Leu Pro Gln Val  
500 505 510

Asn Gln Lys Met Phe Gly Ser Asn Met Gly Gly Asn Met Ser Pro Trp  
515 520 525

Thr Ser Asn Pro Asn Ala Glu Leu Lys Thr Val Ala Leu Thr Leu Pro  
530 535 540

Gln Met Pro Val Phe Ala Ala Trp Ala Asp Ser  
545 550 555

<210> 16

<211> 485

<212> PRT

<213> Sea mays

<400> 16

Met Asp Met Asp Met Ser Ser Ala Tyr Pro His His Trp Leu Ser Phe  
1 5 10 15

Ser Leu Ser Asn Asn Tyr His His Gly Leu Leu Glu Ala Phe Ser Asn  
20 25 30

Ser Ser Gly Thr Pro Leu Gly Asp Glu Gln Gly Ala Val Glu Glu Ser  
35 40 45

Pro Arg Thr Val Glu Asp Phe Leu Gly Gly Val Gly Cys Val Gly Ala  
50 55 60

Pro Arg Ser Arg Arg Leu Gln Ile Arg Ile Thr Ser Leu Cys Ala Ala  
65 70 75 80

Ser Cys Gly Ser Ile Thr Ala Arg Phe Leu Arg His Tyr Pro Ala Ala  
85 90 95

Gln Ser Gly Thr Thr Val Gly Glu Pro Leu Ser Arg Phe Thr Leu Ala  
100 105 110

Ala Met Ser Ser Thr Asp Val Ala Trp Ala Glu Ser Asp Gln Ala Ser  
115 120 125

Sequence.ST25.txt

Arg Ser Ala Glu Thr Phe Gly Gln Arg Thr Ser Ile Tyr Arg Gly Val  
130 135 140

Thr Arg His Arg Trp Thr Gly Arg Tyr Glu Ala His Leu Trp Glu Asn  
145 150 155 160

Ser Cys Arg Arg Glu Gly Gln Ser Arg Lys Gly Arg Gln Val Tyr Leu  
165 170 175

Gly Gly Tyr Asp Lys Glu Glu Lys Ala Ala Arg Ala Tyr Asp Leu Ala  
180 185 190

Ala Leu Lys Phe Trp Gly Pro Thr Thr Thr Asn Phe Gln Val Ser  
195 200 205

Asn Tyr Glu Lys Glu Leu Glu Glu Met Lys Ser Met Thr Arg Gln Glu  
210 215 220

Phe Ile Ala Ser Leu Arg Arg Lys Ser Ser Gly Phe Ser Arg Gly Ala  
225 230 235 240

Ser Ile Tyr Arg Gly Val Thr Arg His His Gln His Gly Arg Trp Gln  
245 250 255

Ala Arg Ile Gly Ser Val Ala Gly Asn Lys Asp Leu Tyr Leu Gly Thr  
260 265 270

Phe Ser Thr Gln Glu Glu Ala Ala Glu Ala Tyr Asp Ile Ala Ala Ile  
275 280 285

Lys Phe Arg Gly Leu Asn Ala Val Thr Asn Leu Asp Met Ser Arg Tyr  
290 295 300

Asp Val Glu Ser Ile Leu Ser Ser Asp Leu Pro Val Gly Gly Ala  
305 310 315 320

Ser Gly Arg Ala Ala Ala Lys Phe Pro Leu Asp Ser Leu Gln Pro Gly  
325 330 335

Ser Ala Ala Ala Met Met Leu Ala Gly Ala Ala Ala Ala Ser Gln Ala  
340 345 350

Thr Met Pro Pro Ser Glu Lys Asp Tyr Trp Ser Leu Leu Ala Leu His  
355 360 365

Tyr Gln Gln Gln Gln Glu Glu Arg Gln Phe Pro Ala Ser Ala Tyr  
Page 21

## Sequence.ST25.txt

370	375	380
Glu Ala Tyr Gly Ser Gly Gly Val Asn Val Asp Phe Thr Met Gly Thr		
385	390	395 400
Ser Ser Gly Ser Asn Asn Asn Thr Gly Ser Gly Val Met Trp Gly Ala		
	405	410 415
Thr Ser Gly Ala Val Val Gly Gln Gln Asp Ser Ser Ser Lys Gln Gly		
	420	425 430
Asn Gly Tyr Ala Ser Asn Ile Pro Tyr Ala Ala Ala Met Val Ser Gly		
	435	440 445
Thr Ala Gly Tyr Glu Gly Ser Thr Gly Asp Asn Gly Thr Trp Val Thr		
	450	455 460
Thr Thr Thr Ser Ser Asn Thr Gly Thr Ala Pro His Tyr Tyr Asn Tyr		
	465	470 475 480
Leu Phe Gly Met Glu		
	485	
<210> 17		
<211> 446		
<212> PRT		
<213> Sea mays		
<400> 17		
Met Ala Ala Thr Arg Arg Ala Phe Phe His Ser Ala Val Asp Gly Ile		
1	5	10 15
Ala Arg Ala Gly Pro Gly Glu Ala Glu Arg Leu Pro Ala Pro Pro Gln		
	20	25 30
Val Gly Arg Pro Val Glu Gly Ala Ser Ser Met Val Leu Gly Phe Pro		
	35	40 45
Val Pro Arg Pro Thr Met Pro Asp Arg Arg Pro Ala Ala Val Thr Gln		
	50	55 60
Gln Phe Phe Pro Pro Thr Thr Ala Ala Gln Gln Ala Thr Met Glu		
65	70	75 80
Glu Gln Cys His Val Pro Ala Gly Ser Ala Ala Glu Gln Trp Val Arg		
	85	90 95
Ser Ser Ala Ser Arg Lys Ser Arg Arg Gly Pro Arg Ser Arg Ser Ser		

## Sequence.ST25.txt

100

105

110

Gln Tyr Arg Gly Val Thr Phe Tyr Arg Arg Thr Gly Arg Trp Glu Ser  
115 120 125

His Ile Trp Asp Cys Gly Lys Gln Val Tyr Leu Gly Gly Phe Asp Thr  
130 135 140

Ala Gln Ala Ala Ala Arg Ala Tyr Asp Gln Ala Ala Ile Lys Phe Arg  
145 150 155 160

Gly Leu Asn Ala Asp Ile Asn Phe Thr Leu Asp Asp Tyr Lys Asp Glu  
165 170 175

Met Lys Lys Met Lys Asp Leu Ser Lys Glu Glu Phe Val Leu Val Leu  
180 185 190

Arg Arg Gln Gly Ala Gly Phe Val Arg Gly Ser Ser Arg Phe Arg Gly  
195 200 205

Val Thr Gln His Lys Cys Gly Lys Trp Glu Ala Arg Ile Gly Gln Leu  
210 215 220

Met Gly Lys Lys Tyr Val Tyr Leu Gly Leu Tyr Asp Thr Glu Thr Glu  
225 230 235 240

Ala Ala Gln Ala Tyr Asp Lys Ala Ala Ile Lys Cys Tyr Gly Lys Glu  
245 250 255

Ala Val Thr Asn Phe Asp Ala Gln Ser Tyr Asp Lys Glu Leu Gln Ser  
260 265 270

Gln Pro Trp Asp Gly Glu Leu Asp Leu Glu Leu Ser Leu Gly Cys Ala  
275 280 285

Ser Ser Asp Pro Ser Thr Val Ala Val Glu Ala Phe Ser Pro Ala Thr  
290 295 300

Ser Ser Ser Ser Arg Lys Gln Arg Thr Met Thr Leu Thr Leu Gly Leu  
305 310 315 320

Pro Glu Glu Glu Glu Thr Gly Ala Gly Tyr Pro His Pro Ala Ala Gly  
325 330 335

Met Phe Gly Arg Pro Ala Asp Gly His Val His Val Ala Pro Pro Pro  
340 345 350

Sequence.ST25.txt

His	Arg	Gln	Trp	Gln	Gln	Gln	Gln	Gly	Gln	His	Ala	Ala	Pro	Asp	
355					360					365					
Ala	Ala	Pro	Glu	Arg	Arg	Ala	Ala	Glu	Pro	Ala	Asp	Arg	Gln	Arg	Trp
370				375					380						
Gly	Arg	Gly	Ala	Arg	Trp	Pro	Ile	Ala	Ser	Ala	Ser	Gly	Ile	Asn	Trp
385					390				395					400	
Ala	Trp	Ala	Pro	Pro	Tyr	Ala	Thr	Ala	Arg	Ala	Gly	Thr	Asp	Asp	Asp
	405						410					415			
Asp	Ala	Ser	Ser	Ala	Ala	Ala	Ala	Ser	Ser	Gly	Phe	Pro	Leu	Trp	
	420						425					430			
Gln	Leu	Gly	Ala	Ala	Ser	Ser	Arg	Ser	Ser	Trp	Pro	Ser	Cys		
435					440				445						